USER'S MANUAL
VERSION 2.4

LIT-0163

www.sensaphone.com

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Written and produced by Sensaphone

Please address comments on this publication to:

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901 Tryens Road

Aston, PA 19014

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If you experience trouble with the SAT4D, or you need information on obtaining service or repairs, please contact:

Sensaphone

901 Tryens Road

Aston, PA 19014

Phone: 610.558.2700

FAX: 610.558.0222

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Effective date 05/01/2009

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CHAPTER 1: INTRODUCTION

Congratulations on your purchase of the SAT4D by Sensaphone.

The SAT4D Satellite-based monitoring device is designed to provide alarm notification without the need for a telephone line or cellular plan. The SAT4D uses the Globalstar constellation of 40 Low Earth Orbiting (LEO) satellites which pick up signals from over 80% of the Earth's surface. This includes 100% coverage of the contiguous United States and most of Alaska. The SAT4D is a completely self-contained, self- powered device and includes GPS technology to identify its location. You can even check the status and review alarm history on the Sensaphone SAT4D website. The unit has four dry contact inputs which can be configured for Normally Open or Normally Closed operation with four selectable alarm recognition times. When an alarm condition occurs the SAT4D can contact up to 8 people using its synthesized voice technology and can also send up to six e-mail or text messages. The SAT4D will send a status report twice a day to the website which includes the status of its four inputs and its location. On the website you can monitor the status of one or more units and view the exact location of your device using map technology provided by Google™.

To use the SAT4D the only requirement is that the Satellite transmitter have a clear, unobstructed view of the sky. To make mounting the device easier a pole mount kit is available. The kit includes two poles and a mounting plate that allows you to install the device anywhere, as long as you can drive the pole three feet into the ground (see the installation section for details).

Activation of a SAT4D Communications plan is required. The plan includes voice & e-mail alarm message delivery, two status reports per day, and a website account. See the sign-up form included in the box or contact Sensaphone Sales for activation information.

SUMMARY OF FEATURES

- Virtually unlimited coverage area utilizing satellite technology
- Self-contained - no power supply required, runs on built-in lithium battery

- 4 Dry Contact Inputs configurable as Normally Open or Normally Closed
- Alarm message delivery to 8 Voice telephone numbers and 6 e-mail or text messages.
- Two status reports per day sent to website
- Status and alarm history available on website
- Device location provided using GPS technology
- Mounting kit available (optional)

TECHNICAL SUPPORT

This User's Manual will help you install and understand the operation of the SAT4D. Be sure to read it completely before beginning the installation process. If there are any questions or problems that arise upon installation or operation, please contact our Technical Support team at:

SENSAPHONE®

901 Tryens Road

Aston, PA 19014

Phone: 610.558.2700

FAX: 610.558.0222

support@sensaphone.com

CHAPTER 2: INSTALLATION

The SAT4D consists of a weatherproof satellite transmitter which contains a built-in antenna and lithium battery pack, and an Input Module which is housed separately in a NEMA 4x enclosure. The Input Module contains wiring terminals and it's own lithium battery. A weatherproof cable connects the two together. In order for the satellite transmitter to function it must have a clear, unobstructed view of the sky. This means that there cannot be any trees, buildings, or metal structures nearby that could potentially block it's view of the sky (see diagram below).

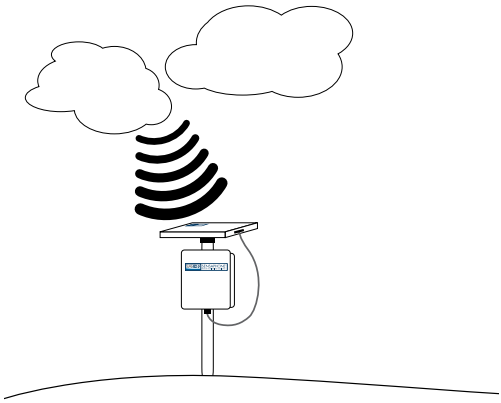


Fig 1. The satellite transmitter must be mounted horizontally such that the SAT4D label faces the sky.

Connect the cable to the satellite transmitter and feed the other end through the weatherproof connector on the NEMA 4X enclosure and connect the wires to the Output terminal strip as shown in Figure 3.

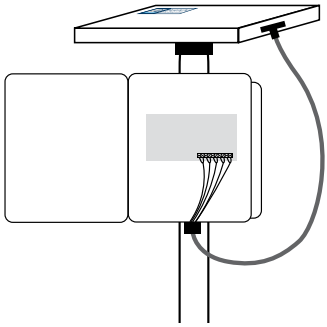


Fig 2. Cable from transmitter connecting to terminal strip.

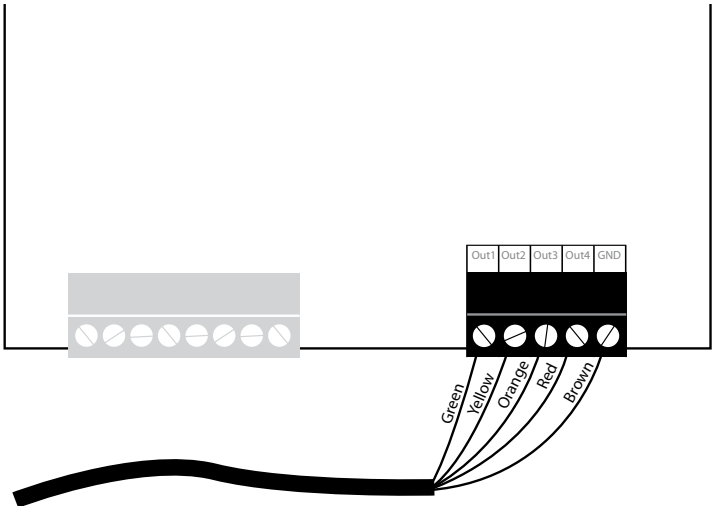


Fig 3. Wiring from transmitter to terminal strip on Input Module.

INSTALLATION USING THE POLE KIT (OPTIONAL)

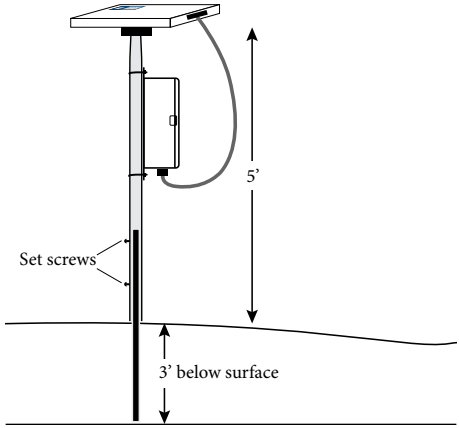
1) Locate an area where you will be installing the SAT4D. Make sure you can drive a pipe at least 3' into the ground without disturbing any electrical wires, gas pipes, water pipes, telephone or cable wires, etc… You may need to contact your local utilities beforehand.

2) Loosen the two set screws and remove the 1" pipe from the inside of the 2" pipe. Drive the 1" pipe three feet into the ground.

3) Attach the satellite transmitter to the flat panel using the screws. Attach the panel to the threaded end of the 2" pipe by screwing it on.

4) Slide the 2" pipe over the 1" pipe and tighten the two set screws. Attach the cable to the transmitter.

5) Attach the NEMA-4X enclosure to the 2" pipe using the 2 U-Bolts. (see figure)



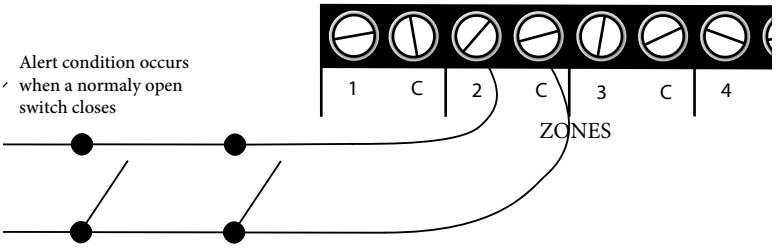
6) Run the cable through the liquid tight connector of the NEMA-4X enclosure and connect the wires to the Output terminals as shown in Figure 3. Secure the cable to the pipe using tie wraps.

ZONE INPUT WIRING

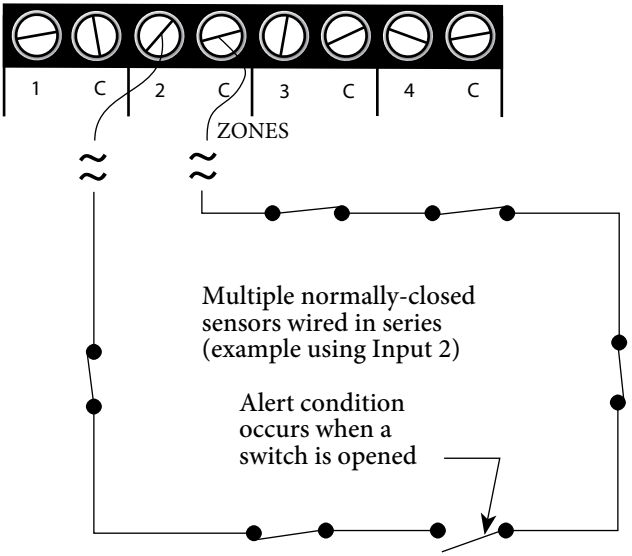
The SAT4D has 4 Zone Inputs that are compatible with dry contact sensors/outputs configured as either Normally Open or Normally Closed. A dry contact is any open or closed circuit that has no voltage applied (such as a relay or switch). The SAT4D will sense when the circuit changes from closed to open or vice-versa and then act accordingly.

WARNING: Do not connect sensors, switches, or relays that supply voltage to the SAT4D Inputs. This can cause permanent damage. Be aware of proximity to other electrical wires or equipment when placing wires that lead from the sensors to the Inputs. Avoid running the wires near electrical equipment that use high voltage or current, such as motors, heavy machinery, etc. This voltage may be inductively coupled into the sensor wiring and could result in false alarms or damage to the SAT4D's circuitry. Try to place wires at least 6 inches from other electrical wiring.

Select a Zone Input to connect your sensor and wire it up to the corresponding numbered terminal and adjacent Common "C" terminal. Note that multiple Normally Open sensors may be connected to the same zone input in parallel and multiple Normally Closed sensors may be connected in series. See figures below:



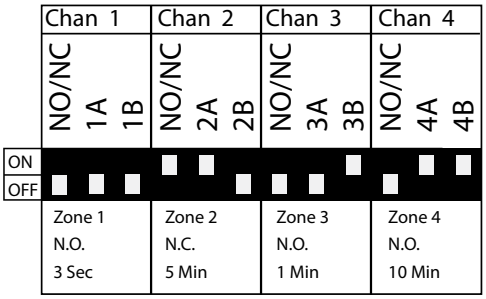
Multiple Normally Open Sensors



Multiple Normally Closed Sensors

CONFIGURING THE INPUT NORMALITY

Each Zone Input must be configured as either Normally Open or Normally Closed. The default setting is Normally Open. There is a DIP switch for each zone input to select the proper normality. When the switch is in the OFF position the zone is configured as Normally open, when in the ON position it is configured as Normally Closed. Be sure to set each switch to the proper position.



Sample DIP Switch Settings

CONFIGURING THE ALARM RECOGNITION TIME

Set the Alarm Recognition Time for each zone input by setting the DIP Switches according to the table below.

	Switch A	Switch B
3 seconds	Off	Off
1 minute	Off	On
5 minutes	On	Off
10 minutes	On	On

TESTING THE SYSTEM

Check that all equipment being monitored is operating normally and press the *Alarm Status* pushbutton. All 4 LEDs should light up green. If an input is in an Alarm condition and has met the recognition time the LED will light up red. Verify that the LEDs display correctly under both Normal and Alarm conditions. Make and hold an alarm to test the alarm delivery process. You must maintain the alarm condition until all telephone calls have been received. Once the alarm clears, the dial-out process is cancelled. In addition, be aware that if a second alarm occurs while the first alarm is being processed, the second alarm will take priority and the first alarm will be canceled.

CHAPTER 3: SYSTEM PROGRAMMING

The SAT4D requires minimal programming which makes it very easy to use. Included with the device is a SAT4D Service Registration Sheet which must be filled-out and sent to Sensaphone via fax, email or US mail along with your payment for the first year's wireless service contract. Upon receipt we will activate your SAT4D and create your user account on the SAT4D website so that you can begin programming your input names and alarm notification information. The website address is www.sat4d.com.

SAT4D SENSAPHONE® REMOTE MONITORING SOLUTIONS 100% COVERAGE

Service Plan Registration

Before you can install the SAT4D and take advantage of satellite based monitoring, you must first activate a one year service plan. All plans are billed for the full plan term at time of activation. You'll be notified several months before your plan term is ready to expire.

To activate your SAT4D, fill out this form and send to Sensaphone via fax, register@sensaphone.com, or U.S. mail. This form must be received to activate your unit. Visit www.sat4d.com to access your SAT4D device.

Service Registration

SAT4D Serial Number

Company Name

Address

City, State, Zip

Name of Contact Person

Telephone Number

Fax Number:

E-Mail Address (Required for website login)

SAT4D Website Password

For service renewal contact:

☐ Dealer (Dealer Name:_____)

☐ Registered User (Contact Info Above)

Payment Method

If you have not yet purchased your wireless service, please fill out the payment information below.

FGD-SAT1Y one year service plan . . . $420

☐ Credit Card ☐AMEX ☐MC ☐VISA

☐ Check or Money Order Enclosed (Payable to Sensaphone)

Credit Card #

Security Code (found on back of card) Expiration

Name as it appears on credit card

Billing Address

City, State, Zip

Telephone Number

E-Mail Address

Company Name

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The website allows you to view Status and Alarm Messages, as well as program your device. Once you have logged-in, select your unit's serial number from the list. You will be presented with a map showing the location of your device with a list of time-stamped Status and/or Alarm messages. To program your input names and contact information, click where it says "*Click here to modify this device*". Fill-in the appropriate information for your unit and click "*Save Settings*". Note that programming changes require up to 48 hrs to process.

If you'd like to have alarm messages (SMS) sent to your cell phone, enter your telephone number along with the appropriate e-mail suffix for your carrier (shown below) into one of the six e-mail address programming fields.

Cellular carrier e-mail address formats:

AT&T Wireless/Cingular . . .	cellnumber@txt.att.net
AllTel Wireless	cellnumber@message.alltel.com
Boost Mobile	cellnumber@myboostmobile.com
Metro PCS.	cellnumber@mymetropcs.com
Quest Wireless	cellnumber@qwestmp.com
Rogers Wireless.	cellnumber@pcs.rogers.com
Sprint (Nextel)	cellnumber@page.nextel.com
Sprint (PCS).	cellnumber@messaging.sprintpcs.com
T-Mobile	cellnumber@tmomail.net
US Cellular	cellnumber@email.uscc.net
Verizon Wireless	cellnumber@vtext.com

CHAPTER 4: OPERATION

SATELLITE COMMUNICATION AND ALARMS

When an alarm is detected the SAT4D will transmit the alarm message multiple times to the Satellite. The time between transmit attempts will vary randomly between 5 and 10 minutes to ensure that the message is received. If another alarm occurs during the time period that an ongoing alarm is being processed, then the initial alarm will be discarded and the new alarm will take priority. Note that the status of all inputs will be updated on the website whenever an alarm occurs, therefore it is highly recommended that you check the website to view the status of all inputs, whenever an alarm message is received.

VIEWING YOUR UNIT ACTIVITY ON THE WEBSITE

The SAT4D will transmit its status twice a day to www.sat4d.com. The status includes the present alarm condition of each input and the GPS location. You can check the status by going to the website (www.sat4d.com). Then enter your username and password, and click OK. A sample screen is shown below:

This page lists all units associated with your account. The page also includes the unit name, serial number, description, battery condition, total number of messages transmitted, the present status (OK or Alarm), and the date/time of the last message sent.

To view the message history and unit location information for a particular SAT4D device, click on the Unit Name or Serial Number.

The Map page shows the location of the SAT4D and all messages received from it. Each message includes the date and time, the type of message (Status, Alarm or Cleared), a location link to highlight the location of the SAT4D at the time the message was sent and the status of each of the zone inputs (OK, Alarm, or Cleared). Note that a *Cleared* message means that the input has changed from the Alarm state to a Normal (or cleared) state. The default map location will be that of the most recent GPS data sent in the latest Status update. Note that the GPS location information is not included with alarm messages.

BATTERY INFORMATION

The battery in the Satellite transmitter should last about 5 years assuming typical alarm activity. On the unit summary screen you will see a column titled "Battery". This value indicates the percentage of Battery Life remaining. When the battery reaches 20% the device will send a Low Battery Alert once a week to warn of a low

battery condition. The battery in the Input Module (inside the NEMA-4 enclosure) will also need to be replaced at some point. It is highly recommended that when you change the battery in the Satellite transmitter you also change the battery on the Input module. Contact Sensaphone for information on replacement batteries.

ALARM MESSAGE DELIVERY

The SAT4D will make several transmit attempts to the satellite to ensure that the message gets delivered. It must do this because the satellite is always moving and may not necessarily be overhead on the first attempt - thus the reason for making several attempts. It can take up to 30 minutes (worst case) for a transmission to be successful (although most of the time it will be within 10 minutes). The SAT4D will provide an "alarm" message when the input goes into alarm and it will also provide an "OK" message (e-mail & text only) when the input goes back to Normal. The alarm delivery system is configured to ignore duplicate messages. In the event that the input does not remain in alarm long enough for the original alarm message to be received by the satellite, then it is quite possible that the subsequent transmit attempt by the SAT4D will only be the "OK" message, indicating that conditions have returned to normal. As a result, you will not receive any voice alarm telephone calls but you will receive an e-mail or text message indicating that the input is now "OK".

Note that all e-mail and text messages will be sent out simultaneously as soon as the alarm is received at the SAT4D website. Voice calls, however, will be made one at a time with a 3 minute delay between calls. Up to three call attempts will be made per user.

For test purposes be sure to hold the input in an alarm condition until all e-mail & voice messages have been delivered. Once the SAT4D website receives an "OK" message from the unit, all remaining voice telephone calls will be canceled.

SAMPLE ALARM MESSAGES

The SAT4D can send alarm messages using both voice telephone calls and e-mail or text messages. Up to 8 voice calls can be made and up to 6 e-mail/text messages. All contact information must be entered on the Sat4D website*.

*The voice and e-mail alarm messages will utilize the programming you've provided to deliver the alarm message. In the example below, the unit has been programmed with the following information:

SAT4D Unit Name: "Oak Street Treatment Plant"

Input #1: "Pump Trouble"

After listening to the spoken alarm message you have three options:

Press 222 to pass the alarm to the next contact person on the list.

Press 555 to cancel the alarm - in which case it will stop the dialout process.

Press 888 to repeat the alarm message.

If the system does not receive a response it will continue to call the next person on the list.

VOICE STATUS REPORT

The SAT4D also allows you to call and get a voice status report. To obtain a status report you must call the toll-free number below, enter your PIN number and then the SAT4D serial number printed on the Satellite Transmitter. To obtain a pin number contact Sensaphone Technical Support.

The telephone number to call is: (866) 288-4559

When you call you will hear the following:

"Welcome to the Sentry Data Portal".

"Please say or dial your seven digit number now". {enter PIN}

"For the status of a single unit please press or say 1".

"For the status of all units please press or say 2".

"Say or dial your ESN number now". {enter serial number}

"Substation monitoring system" (the name you gave your SAT4D)

"ESN # 417226" (the serial number)

"Status okay"

Last message received at May 28, 2009 9:03:20

For the Status of another unit please press or say 1

To exit this system please press or say 2

PROGRAMMING CHANGES

On the SAT4D website, simply click on the link to "*Modify this Device*" from the top of the Map page and you can change most of the SAT4D's configuration details. Simply make your changes and click on the *Save Setting* button at the bottom of the page. Note that it may take up to 48 hours for the changes to take effect. A sample screen is show below.

APPENDIX A: TEST PROCEDURE

We recommend that you periodically test your Sensaphone SAT4D to be sure it is functioning properly. This will ensure that when a problem arises the Sensaphone will be ready to alert the appropriate personnel.

1.) Check the SAT4D website weekly to verify the device is sending its daily updates. There should be two entries per day.

2.) Periodically create an alarm on each of the four zones by tripping the connected sensors. You must hold the circuit closed (or open depending on the normality) for the duration of the alarm notification process to be sure that all parties receive the alarm message.

3.) Allow the unit to contact all programmed users. This will make sure that the Sensaphone is programmed properly. It will also prepare personnel to respond appropriately when they receive a message from the SAT4D.

4.) Keep a log of your tests, noting the date and whether the SAT4D passed in each category tested. An example of such a log is shown below. (See "Test Log" at the end of this manual.)

SAT4D Test Log

Date	Inputs		Alarm		Battery		
	Pass	Fail	Pass	Fail	Pass	Fail	
07/19/09	X		X		X		Bob H
08/20/09	X		X		X		Alex G.
09/19/09	X		X		X		Bob H.

Test Log Sample

If you require assistance, call Sensaphone Technical Support at 610-558-2700.

APPENDIX B: ACCESSORIES

The sensors listed below are available from Sensaphone and represent the most commonly used devices. Other dry contact sensors, designed for more specialized applications, may also be used. Commercial or industrial electrical supply houses can provide devices to monitor virtually any condition. For further information, contact Sensaphone Customer Service at 610-558-2700.

PART #	SENSOR / SWITCH
FGD-0006	Magnetic Reed Switch
FGD-0007	Passive Infra-Red Detector
FGD-0010	50' two-conductor #22AWG shielded cable
FGD-0013	Spot Water Detector
FGD-0022	Temp° Alert
FGD-0027	Humidistat
FGD-0049	Smoke Detector with Built-in Relay
FGD-0054	Power-Out Alert™
FGD-0056	Zone Water Detector w/Water Rope
FGD-0063	Additional 10' Water Rope for FGD-0056
FGD-0205	Multi-Point Wireless I/O System

APPENDIX C: SPECIFICATIONS

ALERT ZONES

Number of Zones: 4

Zone Connector: terminal block

Zone Types: N.O./N.C. Contact

Zone Characteristics: 3.3MΩ to 2.5V

Zone Protection: 8VDC Metal Oxide Varistor with fast acting diode clamps.

LED STATUS INDICATORS

Number of LEDs: 4

Operation: Active while Alarm Status button is depressed.

Green = OK, RED = Alarm (depending on recognition time).

L-BAND RF

Frequency: 1.615 GHz

Protocol: Simplex

Modulation: Direct Sequence Spread Spectrum (DSSS)

Maximum Tx Power: +22 dBm EIRP

Antenna: Internal ceramic patch

SATELLITE TRANSMITTER BATTERY

Battery Type: Long life lithium custom battery pack.

Battery Life: 5 - 7 years depending on transmit activity & temperature.

INPUT MODULE BATTERY

Battery Type: Long life lithium AA (Tadiran # TL2100/S).

Battery Life: 5 - 7 years depending on temperature

ENVIRONMENTAL

Operating Temperature: -22° to 140°F (-30° to 60° C) Normal, -40° to 185°F (-40° to 85° C) with battery life impact

PHYSICAL

Satellite Transmitter Dimensions: 9.25"l x 6.25"w x 1.0"h

Satellite Transmitter Weight: 1.6 lbs.

Satellite Enclosure Specifications: NEMA 4x, SAEJ1455 compliant

Input Module Enclosure Dimensions: 9.50"l x 7.32"w x 4.96"h

Input Module Enclosure Weight: 4 lbs.

Input Module Enclosure Specifications: NEMA 4X

APPENDIX D: RETURNING THE UNIT FOR REPAIR

In the event that the SAT4D does not function properly, we suggest that you do the following:

1) Record your observations regarding the SAT4D's malfunction.

2) Call the Technical Service Department at 610-558-2700 prior to sending the unit to Sensaphone for repair.

If the unit must be sent to Sensaphone for Servicing, please do the following:

1) Disconnect all sensors from the alert zones.

2) Carefully pack the unit to avoid damage in transit. Use the original container (if available) or a sturdy shipping box.

3) You must include the following information to avoid shipping delays:

a) Your name, address and telephone number.

b) A note explaining the problem.

4) Ship your package to the address below:

SERVICE DEPARTMENT

SENSAPHONE

901 Tryens Road

Aston, PA 19014

5) Ship prepaid and insured via UPS or US Mail to ensure a traceable shipment with recourse for damage or replacement.

APPENDIX E: TEST LOG

Date	Inputs		Alarms		Battery						Tested By
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	

Date	Inputs		Alarms		Battery						Tested By
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	
	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	Pass ☐	Fail ☐	